

### **REMARKS**

This is in response to the Office Action of August 6, 2008. Claims 4 and 7-11 are cancelled, without prejudice. The feature of claim 4 is incorporated into claim 1. Claim 5 is amended to depend from claim 1. Claim 12 is amended to delete an unnecessary recitation of “said” – this is a non-narrowing amendment. No new matter has been added. Claims 1-3, 5-6, 12 and 15 are currently pending in the present application.

Pending claims 1-3, 5-6, 12 and 15 considered together with the following remarks are believed sufficient to place the application into condition for allowance. Accordingly, an early and favorable action on the merits is earnestly solicited at present.

#### **Issues Under 35 U.S.C. § 103(a)**

Claims 1-3 and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over **Jenkins et al. U.S. 5,637,143**, in view of **Schmid et al. U.S. 5,364,467**.

Claims 4 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over **Jenkins et al. U.S. 5,637,143**, in view of **Schmid et al. U.S. 5,364,467**, further in view of **Mei et al. U.S. 6,894,089**.

Claims 7-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over **Jenkins et al. U.S. 5,637,143**, in view of **Schmid et al. U.S. 5,364,467**, further in view of **Shimizu et al. U.S. 4,842,837**.

Claims 12 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over **Jenkins et al. U.S. 5,637,143**, and **Schmid et al. U.S. 5,364,467** and **Shimizu et al. U.S. 4,842,837**, further in view of **Mei et al. U.S. 6,894,089**.

Reconsideration and withdrawal of the above rejections are respectfully requested based on the following considerations.

**Present Invention**

The present invention is directed to an aluminum pigment wherein aluminum particles are covered with a molybdenum coating and the surface of the molybdenum coating in turn is covered with a silica coat of amorphous silica **and** a coating obtained from a silane coupling agent. The present invention is also directed to a method of manufacturing the aluminum pigment of the present invention.

**Distinctions over the Cited Art**

**Jenkins *et al.* U.S. 5,637,143**

In contrast to the present invention, it appears that the specification of Jenkins *et al.* actually discloses anti-corrosive metal particles (e.g. aluminum flakes) treated with a heteropolyanion compound, a phosphosilicate compound, or a combination of at least one aluminum pigment and at least one phosphosilicate compound.

Thus, Jenkins *et al.* fail to disclose all of the elements of independent claim 1, wherein the pigment is further coated with silica. Additionally, Jenkins *et al.* fail to disclose a molybdenum coat comprising a molybdenum oxide and/or a molybdenum hydrate covering the surface of each of said aluminum particles, a silica coat and a silane coupling agent coat comprising amorphous silica further covering said molybdenum coat as claimed.

**Schmid *et al.* U.S. 5,364,467**

In contrast to the teachings of the present invention, the coating sequence of the pigments disclosed in the Schmidt *et al.* patent is the reverse of the present invention because the molybdenum coat is not formed directly on the aluminum pigment but rather is formed on the silica coat. This is clear from Examples 1 and 2 of the Schmidt *et al.* patent which clearly shows that the sequence of the molybdenum and silica coats is directly opposite to that of the present invention. This being the case, it is understandable why the Schmidt *et al.* patent is silent with respect to the effect of the present invention – that is, that the molybdenum coat serves as a core for precipitation for a silica coat. Since the Schmidt *et al.* patent fails to show the Applicants'

specific sequence of coatings as well as the benefits derived by providing such a sequence, it is believed that all of the rejections which rely upon the teachings of the Schmidt *et al.* patent must fail.

**Shimizu *et al.* U.S. 4,842,837**

Shimizu *et al.* disclose a process of making silica by using ammonia as a catalyst in hydrolysis of organic silicon compound. Shimizu *et al.* (similar to Jenkins *et al.*) fail to disclose a molybdenum coat comprising a molybdenum oxide and/or a molybdenum hydrate covering the surface of each of said aluminum particles, a silica coat and a silane coupling agent coat comprising amorphous silica further covering said molybdenum coat as claimed. The Shimizu *et al.* reference fails to teach or suggest the claimed invention.

**Mei *et al.* U.S. 6,894,089**

Mei *et al.* disclose a composition comprising a white pigment or extended white pigment surface treated with a silane having at least one functional group capable of reacting with acids and anhydrides, at least one polymeric material and a compatibilizer. Mei *et al.* is directed to “white pigment”, not “metal pigment” such as aluminum. In contrast the primary reference in the cited references (Jenkins *et al.*) is directed to a “metal pigment” such as aluminum. Because the teaching of Mei *et al.* is directed to different pigments, with different properties, there is no motivation in combining these references.

Therefore, the secondary cited art of Mei *et al.* is incapable of curing the above noted deficiencies of either Schmidt *et al.* or Shimizu *et al.*, and thus is incapable of rendering the instant invention as claimed obvious.

**Legal Standard for Determining Prima Facie Obviousness**

M.P.E.P. § 2143 sets forth the guidelines in determining obviousness. First, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), which has provided the controlling framework for an obviousness analysis. The four *Graham* factors of: determining the scope and content of the

prior art; ascertaining the differences between the prior art and the claims that are at issue; resolving the level of ordinary skill in the pertinent art; and evaluating any evidence of secondary considerations (e.g., commercial success; unexpected results). 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). Second, the Examiner has to provide some rationale for determining obviousness, wherein M.P.E.P. § 2143 set forth some rationales that were set established in the recent decision of *KSR International Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). Here, the Examiner has not appropriately resolved the *Graham* factors, including ascertaining the differences between the prior art and the claims that are at issue, and the rationale in combining the cited references is improper.

The rationale should be made explicit, *KSR International Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007), and the Examiner must interpret the reference as a whole and cannot pick and choose only those selective portions of the reference which support the Examiner's position. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988) ("One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to depreciate the claimed invention.").

As the M.P.E.P. directs, all claim limitations must be considered in view of the cited prior art in order to establish a *prima facie* case of obviousness. See MPEP § 2143.03.

MPEP § 2143.03 recites examples of Basic Requirements of a *Prima Facie* Case of Obviousness and seven exemplary rationales. Note that the list of rationales provided is not intended to be an all-inclusive list. Other rationales to support a conclusion of obviousness may be relied upon by Office personnel.

However, Applicants fully address these rationales below. According to Applicants analysis below, the Examiner has not met the basic requirements of a *prima facie* case of obviousness. More specifically, Applicants contend that:

(A) Combining prior art elements according to known methods cited does not yield predictable results in yielding an aluminum pigment containing aluminum particles, a molybdenum coat comprising a molybdenum oxide and/or a molybdenum hydrate covering the surface of each of said aluminum particles, a silica coat and a silane coupling agent coat comprising amorphous silica further covering said molybdenum coat;

(B) Simple substitution of one known element, a "white pigment" for a "metal

pigment”, does not yield predictable results in regards to the claimed aluminum pigment containing aluminum particles, a molybdenum coat comprising a molybdenum oxide and/or a molybdenum hydrate covering the surface of each of said aluminum particles, a silica coat and a silane coupling agent coat comprising amorphous silica further covering said molybdenum coat;

(C) There is no known technique to improve aluminum particles by using, a molybdenum coat comprising a molybdenum oxide and/or a molybdenum hydrate covering the surface of each of said aluminum particles, a silica coat and a silane coupling agent coat as claimed;

(D) Applying a known technique as taught Jenkins *et al.*, Schmidt *et al.* or Shimizu *et al* does not yield predictable results for said aluminum pigment containing aluminum particles, a molybdenum coat as claimed;

(E) The Examiner cannot support the conclusion of “obviousness” on the basis “obvious to try” – there are no predictable methods or models cited by the Examiner that establish a reasonable expectation of success for the claimed aluminum pigment containing aluminum particles, a molybdenum coat covering the surface of each of said aluminum particles;

(F) There is no reason or rationale cited by the Examiner that may prompt variations from the disclosure of Jenkins *et al.*, in view of Schmidt *et al.* or Shimizu *et al.* that would result in the claimed aluminum pigment containing aluminum particles, a molybdenum coat comprising a molybdenum oxide and/or a molybdenum hydrate covering the surface of each of said aluminum particles, a silica coat and a silane coupling agent coat comprising amorphous silica further covering said molybdenum coat, and methods manufacturing;

(G) There is no teaching, suggestion, or motivation in the prior art cited by the Examiner that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings of coating white pigments to arrive at the claimed aluminum pigment containing aluminum particles, a molybdenum coat comprising a

molybdenum oxide and/or a molybdenum hydrate covering the surface of each of said aluminum particles, a silica coat and a silane coupling agent coat comprising amorphous silica further covering said molybdenum coat and methods manufacturing.

Accordingly, the present invention is not rendered obvious in view of the teachings and disclosures of the cited Jenkins *et al.*, in view of Schmidt *et al.* or Shimizu *et al.* references and/or the cited Mei *et al.* reference of record. Any contentions of the USPTO to the contrary must be reconsidered based upon the above arguments.

**Issue Under 35 U.S.C. § Double Patenting**

Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11, 13, and 14 of US Patent 7,045,212.

Reconsideration and withdrawal of the above rejections are respectfully requested based on the following considerations.

Claim 1 has been amended to further limited to said aluminum pigment containing aluminum particles, a molybdenum coat comprising a molybdenum oxide and/or a molybdenum hydrate covering the surface of each of said aluminum particles, a silica coat and a silane coupling agent coat comprising amorphous silica further covering said molybdenum coat.

US Patent 7,045,212 does not teach or make obvious said coating comprised of a silane coupling agent coat covering said aluminum particles. Therefore, there is no basis for the rejection on the grounds of nonstatutory obviousness-type double patenting.

**U.S. Patent 7,045,212**

Applicants note that U.S. Patent 7,045,212 was applied in the Office Action dated August 6, 2008. However this reference does not appear on the PTO-892 form. Applicants respectfully request that the reference (U.S. Patent 7,045,212) be officially cited on a PTO-892 with the next communication from the Examiner.

**Information Disclosure Statement**

The Examiner is respectfully requested to acknowledge the Information Disclosure Statement which was filed herein on January 22, 2007.

**CONCLUSION**


In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Eggerton A. Campbell, Reg. No. 51,307, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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